UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,156	01/31/2001	Wilhelmus Hendrikus Alfonsus Bruls	PHNL 000031	8179

24737 7590 08/21/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
WONG, ALLEN C	
ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/773,156	BRULS ET AL.	
	Examiner	Art Unit	
	Allen Wong	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/2/06 have been fully considered but they are not persuasive.

Regarding lines 1-12 on page 8 of applicant's remarks, applicant states that there is no motivation or suggestion to combine the teachings, a reasonable expectation of success, and that the teaching to make the suggestion and the reasonable expectation of success must be found in the prior art. The examiner respectfully disagrees.

In response to applicant's argument that there is no suggestion to combine the references, a reasonable expectation of success, and that the teaching to make the suggestion and the reasonable expectation of success must be found in the prior art, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yonemitsu and Timmermans, as a whole, for reducing costs and improving efficiency during the encoding and decoding of high quality image data for a clearer display during image playback, as disclosed in Timmermans' column 4, lines 25-30.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Regarding lines 13-15 on page 8 and lines 4-7 on page 9 of applicant's remarks, applicant asserts that the combination of Yonemitsu and Timmermans does not teach or suggest "a memory for storing said reference image with said first resolution," and "also storing said two reference images with the second resolution in said memory," as recited in claim 1. The examiner respectfully disagrees. Yonemitsu does not specifically disclose the memory for storing reference images in both first and second resolutions. However, Timmermans teaches that storage or memory file IP1 stores multiple resolutions of a picture, where subfile TV stores an image with a resolution corresponding to an NTSC or PAL TV picture, and subfile TV/4 stores an image with a second resolution, a reduced resolution by a factor of 2, clearly, there are at least two or more resolutions storing reference images, as disclosed in fig.2 and column 7, lines 36-67. Thus, Timmermans discloses the use of a storage or memory file that can store first and second resolutions. Therefore, it would have been obvious to one of ordinary

skill in the art to combine the teachings of Yonemitsu and Timmermans, as a whole, for reducing costs and improving efficiency during the encoding and decoding of high quality image data for a clearer display during image playback, as disclosed in Timmerman's column 4, lines 25-30.

Regarding lines 1-7 on page 10 of applicant's remarks, applicant states that Timmermans is incompatible with the requirements of the present invention and cites Timmermans' column 17, line 64 to col.8, line 4 to support that assertion. The examiner strongly and respectfully disagrees. The citation of column 17, line 64 to col.8, line 4 is an alternative concept, not the focus of the main concept as cited by the examiner on column 7, lines 36-67, whereby Timmermans discloses storage or memory file IP1 stores multiple resolutions of a picture, where subfile TV stores an image with a resolution corresponding to an NTSC or PAL TV picture, and subfile TV/4 stores an image with a second resolution, a reduced resolution by a factor of 2, clearly, there are at least two or more resolutions storing reference images, as disclosed in fig.2 and column 7, lines 36-67. Thus, Timmermans discloses the use of a storage or memory file that can store first and second resolutions. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yonemitsu and Timmermans, as a whole, for reducing costs and improving efficiency during the encoding and decoding of high quality image data for a clearer display during image playback, as disclosed in Timmerman's column 4, lines 25-30.

Moreover, the combination of Yonemitsu and Timmermans is reasonably combinable because both Yonemitsu and Timmermans are used in the same analogous

video encoding environment. Thus, a *prima facie* case of obviousness is established by the combination of Yonemitsu and Timmermans for claims 1, 6, 11 and 12. Dependent claims 2-5 and 7-10, that depend from claims 1 and 6, are rejected for at least similar reasons as stated above for claims 1 and 6, and for reasons as stated in the rejection below.

Thus, the rejection is maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonemitsu (5,485,279) in view of Timmermans (5,543,925).

Regarding claims 1 and 6, Yonemitsu discloses a method and video encoder for encoding images in a first resolution mode with reference to a reference image having said first resolution (fig.20 is a video encoder that encodes images in MPEG standard including I, P and B images with a first resolution, where I and P frames are reference images), the encoder comprising a memory for storing said reference image with said first resolution (fig.20, element 63 is a memory for storing reference image in first resolution mode); and control means for selectably encoding said images in a second, lower resolution mode with reference to two reference images having said second resolution (fig.20, element 54 controls the image prediction encoding mode), and for

storing said two reference images with the second resolution in said memory (fig.20, element 121 is a memory for storing reference images in second resolution mode).

Yonemitsu does not specifically disclose the memory for storing reference images in both first and second resolutions. However, Timmermans teaches the use of a storage or memory file that can store first and second resolutions (see fig.2 and col.7, ln.36-67, Timmermans discloses that storage or memory file IP1 stores multiple resolutions of a picture, where subfile TV stores an image with a resolution corresponding to an NTSC or PAL TV picture, and subfile TV/4 stores an image with a second resolution, a reduced resolution by a factor of 2, clearly, there are at least two or more resolutions storing reference images). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yonemitsu and Timmermans, as a whole, for reducing costs and improving efficiency during the encoding and decoding of high quality image data for a clearer display during image playback (Timmermans' col.4, ln.25-30).

Regarding claims 2 and 7, Yonemitsu discloses further including a motion estimation circuit applying a predetermined search strategy in the first resolution mode to search motion vectors representing motion between an input image and the reference image, said motion estimation circuit being arranged to apply said search strategy in the second resolution mode to both reference images (fig.20, element 64 is the motion estimation/compensation circuit that applies a search strategy in the first resolution mode and also note there is an arrow that directs the motion estimation

circuit to apply the search strategy in the second resolution mode to elements 123 and then to element 122).

Regarding claims 3 and 8, Yonemitsu discloses wherein selected images are encoded in the second resolution mode with respect to one of said reference images, the motion estimation circuit being arranged to apply the search strategy in a first pass to search motion vectors with a first precision (fig.20, element 64 is the motion estimation/compensation circuit that applies a search strategy in the first resolution mode and also note there is an arrow that directs the motion estimation circuit to apply the search strategy in the second resolution mode to elements 123 and then to element 122 for searching motion vectors with a first precision), and to apply said search strategy in a second pass to refine the precision of the motion vectors found in the first pass (fig.20, note output of element 122 goes back to the DCT 164 for a second pass to refine the precision of the motion vectors found in the first pass).

Regarding claims 4 and 9, Yonemitsu discloses further arranged to selectably encode images in a third, yet lower resolution mode with reference to two reference images having said third resolution, said motion estimation circuit being arranged to apply said search strategy in the third resolution mode to both reference images, and to apply the search strategy for each reference image in a first pass to search motion vectors with a first precision (fig.20, element 202 is the motion estimation/compensation circuit that applies the search strategy in the third resolution mode to the reference images and also note there is an arrow that directs the motion estimation circuit to apply the search strategy in the third resolution mode to elements

204 and then to element 202 for searching motion vectors with a first precision), and to apply said search strategy in a second pass to refine the precision of the motion vectors found in the first pass (fig.20, note output of element 202 goes back to the DCT 203 for a second pass to refine the precision of the motion vectors found in the first pass).

Regarding claims 5 and 10, Yonemitsu discloses wherein said reference image having the first resolution is a previous image of a sequence of images (fig.20, note the reference image of a sequence of images stored in element 63 is in the first resolution), one of the reference images having the second resolution is a previous image of said sequence, and the other one of the reference images having the second resolution is a subsequent image of said sequence (fig.20, note the reference images of a sequence of images stored in element 124 is in the second resolution).

Regarding claims 11 and 12, Yonemitsu discloses a method and video decoder for decoding images in a first resolution mode with reference to a reference image having said first resolution (fig.21 performs the decoding operation of fig.20; also, fig.21 is a video decoder that decodes images in MPEG standard including I, P and B images with a first resolution, where I and P frames are reference images), the decoder comprising a memory for storing said reference image with said first resolution (fig.21, element 75 is a memory for storing reference image in first resolution mode), characterized in that the video decoder comprises control means for decoding said images in a second, lower resolution mode with reference to two reference images having said second resolution (fig.21, note the IVLC 141 decodes prediction mode,

motion vector, and quantization scale information, coded from control means of fig.20, for decoding the reference images in the second, lower resolution mode), and for storing said two reference images with the second resolution in said memory (fig.21, element 85 stores reference images in the second resolution).

Yonemitsu does not specifically disclose the memory for storing reference images in both first and second resolutions. However, Timmermans teaches the use of a storage or memory file that can store first and second resolutions (see fig.2 and col.7, ln.36-67, Timmermans discloses that storage or memory file IP1 stores multiple resolutions of a picture, where subfile TV stores an image with a resolution corresponding to an NTSC or PAL TV picture, and subfile TV/4 stores an image with a second resolution, a reduced resolution by a factor of 2, clearly, there are at least two or more resolutions storing reference images). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yonemitsu and Timmermans, as a whole, for reducing costs and improving efficiency during the encoding and decoding of high quality image data for a clearer display during image playback (Timmermans' col.4, ln.25-30).

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Groody can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Allen Wong
Primary Examiner
Art Unit 2621

AW
8/16/06